

(*B. Americanus*), the type of the existing species, fifteen pairs of ribs—those with fourteen pairs, the intermediate link, to which the two above varieties and the *Yák* would most probably belong—and those with only thirteen pairs should be considered as the true Taurine which would include all our domestic kine.

*Measurement of the Gaur's head (B. Gaurus) compared with the up-country bullock and the wild buffalo.*

	Gaur.		Up-count. Bullock.		Wild male Buffalo.	
	Ft.	In.	Ft.	In.	Ft.	In.
Length of the head from the tip of the nose to the summit of the crista, .....	1	11.3	2	0.0	2	0.0
Breadth of the occipital ridge between the roots of the horns, .....	0	10.5		7.5		5.0
— across the forehead at the greatest projection of the orbits, .....		10.0		8.2		10.5
— at the narrowest part of the forehead, ..		8.5		6.4		8.2
Depth of the occipital plane, from the great foramen to the top of the crista, .....		9.0		4.2		6.0
— of the superior maxilla from its junction with the nose of the alveolar edge of the molar tooth, .....		5.7		5.5		7.0
Breadth of the nasal fossa, .....		3.7		2.7		3.5
Height of do. from the palatine bone, .....		3.5		3.0		3.3
Length of the horn at its greatest curvature, ...	2	0.3		10.7		?
Circumference at its base, .....	1	4.2		7.1		?

V.—*Memorandum on the Gaur and Gayal.* By Assistant Surgeon J. T. PEARSON, Cur. Mus. Asiatic Society.

At the last meeting of the Society a paper was read, purporting to be a notice on the head of the *Gaur*, by Mr. EVANS. In that paper the author stated that he went into the Museum of the Society and found a specimen, consisting of the horns and part of the skull of a bovine animal, marked "*Bos Gaur*," but which in reality belonged to the *Gayal*, another large animal of the same group, a native of the forests of *Chittagong*. It may be in the recollection of some of the members here present, that, as the specimen in the Museum was labelled by myself, I felt called upon to give my reasons for thinking it part of the *Gaur*, and not of the *Gayal*; whilst that exhibited by Mr. EVANS was perhaps the head of the latter animal, or a specimen of the other sex of the former. I have since been able to consult several authors on the same subject, and of collecting some information which I purpose to lay before you.

The first account of the *Gaur* I have met with is in the Memoirs of the Museum of Natural History by M. GEOFFROY SAINT HILAIRE; being a translation of a notice by Major ROUGHSEGE, sent by that gentle-

man to M. EUGÈNE DESBASSAYNS, son of the Governor of the French possessions in India, and by him to M. GEOFFROY SAINT HILAIRE. In this paper the only passage that bears upon the point in question, the form of the forehead, is the following, which I have retranslated, but which you will also shortly hear in the original:—"Its head has almost all the characters of that of our domestic bull, but the frontal bone appears more projecting and more elevated."

The next account is a more satisfactory one, contained in a paper by Dr. THOMAS STEWART TRAILL in the 11th volume of the *Edinburgh Philosophical Journal*; drawn up from a MS. journal of the same hunting-party mentioned in that furnished by Major ROUGHSEGE to M. GEOFFROY SAINT HILAIRE, which took place at *Myn Pat* in *Sergújah*; and from the personal explanations of Captain ROGERS, who was of that party, and who is stated to have paid considerable attention to the quadrupeds of India. You recollect the remarkable *concavity* of the forehead of Mr. EVANS's specimen, and will be able to satisfy yourselves if that concavity accords with the projecting frontal bone spoken of above, and with the following description by Dr. TRAILL. He says—"The form of the *Gaur* is not so lengthened as that of the *Urnu*. Its back is strongly arched, so as to form a pretty uniform curve, from the nose to the origin of the tail, when the animal stands still. This appearance is partly owing to the *curved* form of the nose and *forehead*, and still more to a remarkable ridge, of no great thickness, which rises six or seven inches above the general line of the back, from the last of the cervical, to beyond the middle of the dorsal vertebræ, from which it is gradually lost in the outline of the back." Now it is evident the above language could not be applied to an animal with a *concave* forehead, like that in Mr. EVANS's specimen; where the concavity instead of being but little below the rest of the bone, as it is in the domestic cow, made, as you saw, a deep fossa, forming a very remarkable feature; and which could not belong to an animal whose form exhibited along the back "a pretty uniform curve from the nose to the origin of the tail," and which "appearance is partly owing to the curved form of the nose and forehead:" for a concave forehead, like that in Mr. EVANS's specimen, would break the uniformity of the curve, instead of help to form it.

Again, Dr. TRAILL apparently in the very phrase, translated by M. GEOFFROY SAINT HILAIRE, says:—"The character of the head differs little from that of the domestic bull, excepting that the outline of the face is more curved, the os frontis more solid and projecting." This, no doubt, was also the case in the Society's specimen of the face,

as it is of the forehead. But in Mr. EVANS's specimen, so far from the face being more curved and the forehead more projecting, the face is quite straight and the forehead deeply concave. We may, therefore, safely conclude, that Dr. TRAILL's *Gaur* and Mr. EVANS's wore a very different appearance.

But the specimen in the Museum was marked as objected to by Mr. EVANS, on the authority of a paper, and figure of the horns and part of the skull, published by Major-General HARDWICKE, in the 3rd volume of the *Zoological Journal*. General HARDWICKE states, that, "as no drawing of the animal has yet been given to the public, to my knowledge, I am induced to offer to the *Zoological Journal*, for publication, a figure taken from a pair of horns of the *Gaur* killed, I believe, by the same hunting party described by Captain RODGERS, and presented to me by the principal member of the party, the late Major ROUGHSEGE." This proves the source from whence General HARDWICKE obtained his specimen to be beyond dispute. And as he is a first authority upon Indian Zoology, and had Dr. TRAILL's paper before him, it is not likely he would have omitted any errors in the description of the forehead and horns, had there been such to notice. So far, therefore, the chain of evidence is complete. M. GEOFFROY SAINT HILAIRE described the *Gaur* from a MS. by Major ROUGHSEGE; Dr. TRAILL did the same from a MS. supplied by an officer of the same party, (perhaps a copy of the same paper,) and from the remarks of Captain RODGERS who had paid much attention to Indian quadrupeds; and Major-General HARDWICKE publishes a drawing of the very head and horns, which were described in the above-mentioned manuscript, as those of the specimen killed in their party. This leaves no possibility of a doubt as to General HARDWICKE's specimen having been the *Gaur*; and his drawing in the *Zoological Journal* which I have the pleasure now of exhibiting, looks as if taken from this very identical specimen in your museum\*. For both the specimen and the drawing shew the same rotundity of forehead, the same gentle convexity on the top of the head, between the horns, (and not a bold elevated crest or ridge, as in Mr. EVANS's specimen,) and the same proportionate size and curvature of horns. And I am sure on making the comparison you will think me fully borne out in concluding that the specimen I have marked, and General HARDWICKE has described, were both, or neither, belonging to the *Gaur*. But if you think we are mistaken, you must also hold the conjecture of Mr. EVANS, that this animal, which I have shewn to be identical with General HARD-

\* See the copy of HARDWICKE's sketch in Pl. XVII.—ED.

WICKE'S, is not the *Gaur*, be of more value than the positive assertion of Major ROUGHSEGE who killed his specimen in its native woods, and sent its spoils to that eminent zoologist\*.

It next remains to determine what species it is to which the skull exhibited by Mr. EVANS belongs;—a matter far more difficult than to prove the label correct upon the other. It is possible that it belonged to the *Gaur*, but to a specimen of a different sex from that in the museum, and that described in the Zoological Journal; that the differences, however strongly marked, may be merely sexual. But, as Mr. EVANS has stated, there is another animal of this country, called the *Gayal*, the *Bos frontalis* of naturalists, with some of whose characters it seems to agree.

The *Gayal* was mentioned so early as the year 1790 in an account of the mountaineers of *Tiprah*, published that year in the Researches of this Society, and there called the cattle of the mountains. There are two sorts, a tame and wild variety; the former of which was then an essential article among that people at their feasts, whether of a warlike, civil or religious nature. But Mr. COLEBROOKE, who published a description of it in the 8th volume of the Researches, appears to think it had been noticed by KNOX in his historical relation of *Ceylon*; and imperfectly described by Captain TURNER in his journey through *Bútán*. Mr. COLEBROOKE'S paper is compiled from accounts of the *Gayal* drawn up by Drs. ROXBURGH and BUCHANAN, and Messrs. ELLIOTT, MACRAE, BIRD and DICK. The only mention made in this paper of the forehead of the *Gayal* is by Dr. BUCHANAN, as follows:—"The head at the upper part is very broad and flat, and is contracted suddenly towards the nose, which is naked like that of the common cow. From the upper angles of the forehead

\* There is also another account of the *Gaur* by Major HAMILTON SMITH, but apparently that gentleman never saw the animal, and has compiled his remarks from the foregoing descriptions. He thinks it possible that "Pliny's Æthiopian bull with blue eyes might refer to this species;" (Plin. l. 8. c. 21;) whose description is thus given by Dr. PHILEMON HOLLAND, in his translation of the works of that author, a book almost as great a curiosity as the animals he describes:—"But the most fell and cruell of all others of that country be the wild buls of the Forrest, greater than our common field buls, most swift, of colour brended, their eyes grey or blewish" (colore fuluos oculis ceruleis); "their hair growing contrary; their mouth wide and reaching to the ears: their horns likewise hardly moveable; their hide as hard as a flint, checking the dent of any weapon whatsoever, and cannot be pierced: all other wild beasts they chase and hunt, themselves cannot be taken but in pitfalls: in this their wildness and rage they dy and never become tame."

proceed two thick, short, horizontal processes of bone, which are covered with hair. On these are placed the horns, which are smooth, shorter than the head, and lie nearly in the plane of the forehead. They diverge outwardly, and turn up with a gentle curve. At the base they are very thick, and are slightly compressed, the flat sides being toward the front and the tail. The edge next the ear is rather the thinnest, so that a transverse section would be somewhat ovate. Toward their tips the horns are rounded, and end in a sharp point." Here the flatness and breadth of the forehead, and the sudden contraction towards the nose, correspond pretty exactly with those peculiarities in Mr. EVANS'S specimen; but nothing can be made of the description of the horns, &c.; the whole having evidently been taken from the tame variety of this "cattle of the mountains." And there is no part of any animal which undergoes greater changes by domestication than the horns of the *Ruminantia*.

In the seventh volume of the Linnæan Transactions there is also a description of the *Gayal* by Mr. AYLMER BOURKE LAMBERT, accompanied by a plate, but which also was taken from the domestic variety.

The last account published of the *Gayal* is in the afore-mentioned paper in the *Zoological Journal* by General HARDWICKE. It is accompanied by a plate of the head and horns of the *Asseel Gayal*, or *True Gayal*. General HARDWICKE says—"Of the *Gayal* (*Bos Gayæus*) of COLEBROOKE, eighth volume of the Asiatic Researches, there appears to be more than one species. The provinces of *Chittagong* and *Sylhet* produce the wild, or as the natives term it, the *Asseel Gayal*, and the domesticated one. The former is considered an untameable animal, extremely fierce, and not to be taken alive. It rarely quits the mountainous tract of the S. E. frontier, and never mixes with the *Gobbah*, or village *Gayal* of the plains. I succeeded in obtaining the skin, with the head of the *Asseel Gayal*, which is deposited in the museum of the Honorable the East Indian Company, in Leadenhall Street, and from which the drawing was taken, which accompanies that of the horns of the *Gaur*."

On referring to the above-mentioned drawing you will perceive the same general appearance of face as the specimen of Mr. EVANS exhibited; the same flatness of forehead, which in the skull is probably a concave surface; the same marked ridge between the horns; and the same projection of the orbits, and sudden contraction of face towards the nose, to which he drew your attention in his paper.

Having thus laid before you all the authorities I have been able to collect, I think you will consider that I have proved my position,

that, the horns and frontal bone in your museum are those of the *Gaur*. I have also shewn that some of the characters of the *Asseel Gayal* are possessed by Mr. EVANS'S specimen. But I feel that with the limited knowledge we still possess, it would be impossible in me to assert, or even to form a conjecture, that it really belonged to that animal.

In conclusion I must observe, that it but little redounds to the honor of Indian sportsmen, or I fear also of this Society, that we have not specimens both of the skins and skeletons mounted in our museum, to enable us to determine to which species a specimen belongs, of two of the largest ruminating animals known; natives of a country of which we have had interrupted possession for more than fifty years.

VI.— On a new Genus of the *Sylviadæ*, with description of three new Species. By B. H. HODGSON, Esq., Resident in Nipal.

SYLVIADÆ? Genus new. YUHINA, nobis. *Yuhin* of the Nipalese.

Bill equal to the head, slender, acute, depressed as far as nares; gradually compressed beyond: maxilla, cut out to centre by nasal fossæ, convex beyond, subarcuated, and gently inclined at tip, with two or three sharp teeth on either side: mandibula, straight, entire, equal to maxilla, pointed. Tomiæ of both, trenchant, scarpt and lockt throughout: nares large, the aperture lunated and lineated by a nude incumbent soft membrane. Tongue sub-equal to bill, cartilaginous, deeply-forked and the prongs filamentous and convolved. Wings medial, round-acuminate, firm, 1st quill small, 5th usually longest. Tail short, firm, square. Tarsi stout, finely scaled, longer than any toe. Toes short, exterior connected to the joint, interior basally; laterals and hind sub-equal; last very stout and depressed. Nails, falcate, strong, suddenly pointed; anteriors sub-equal; hind much the largest. Head crested. Rictus slightly bristled, not wide. Habitat central and northern regions: food, viscid strong berries, and small scaly insects, such as harbour among foliage. It is the opinion of Mr. VIGORS that these singular little birds serve to connect the *Sylviadæ* with the *Certhiadæ*. In the structure of the bill and tongue, and even of the feet and wings, they remind me of the genus *Sibia* (nobis), and of others of the *Philedonian* thrushes of CUVIER—a group, the contents of which have been referred at random to the *Tenni-rostral Meliphagidæ*, and (in part at least) to the long-legged division of the thrushes. These are high matters of classifi-